

REMARKS

This is responsive to the Office Action mailed May 14, 2002 in connection with the above-identified patent application. In that Action, claims 1-28 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,055,515 to Consentino, et al. The previous rejection of claims 1, 3, and 13 under the judicially created doctrine of obviousness-type double patenting over co-pending Application No. 09/221,042 are apparently withdrawn because they were not repeated in the May 14, 2002 Office Action.

The Present Invention:

The present system provides a mechanism which provides users with the ability to determine the lineage of warehouse data by traversing a transformation model. The subject system provides users with a tree structure that represents the data the users wish to view. The system allows users to select any data that they want to access which can be anywhere on the tree. If the users have questions about how the data they are looking at was derived, the users can navigate the information catalog via the tree structure to see any "transformations" that were applied to generate the data. From this point, the users can continue with their data analysis or continue to follow the lineage by looking at the metadata about the source data. The present system allows users to drill from the target warehouse data back to the original source data and learn how the target warehouse data was derived.

Accordingly, the present system is especially advantageous in that it is used to describe a process applied to data. More particularly, the present system describes the transformation of data as it moves in a data warehouse. Moreover, the system defines the lineage of data. That is, the system indicates to the user what the sources for the

warehouse were and/or the modification(s) that resulted in the current state of the data.

U.S. 6,055,515 to Consentino, et al.:

Consentino et al. disclose a user interface for a database system which combines a hierarchical structure with the ability to navigate lattice data structures. As Consentino et al. point out, the use of a display tree is familiar to computer users for navigating through tree-like data structures, such as computer directory and file structures. However, the tree structure is inadequate for more complex organizational structures because there is only a single navigation path through the tree to a given object. For example, for an electronic catalog, providing a single navigation path to a given product would be extremely restrictive.

Lattice data structures are also known which provide a multipath organization. However, lattice data structures are difficult to present graphically and difficult to navigate. The system of Consentino et al. provides a multi-path browsing system which uses the familiar tree control. A number of features are added to the tree view to provide this multi-path capability. First, a multiple-inheritance taxonomy is used. This means, for example, that a user who was shopping for sunglasses could navigate to a pair of sunglasses in an online catalog data through many categories, such as beach wear, sportswear, or eye care. See column 6, lines 22-25.

Additionally, since the data is structured as a lattice with multiple paths to different objects, "floating menus" are used to display other "parent" or "ancestor" nodes which lead to a given node. For example, a tree hierarchy is used to display one possible path. A secondary mouse button or "right click" can then be used to bring up a floating menu which displays the parent nodes or super nodes of the node.

If one of the other parent nodes is selected, the tree menu then expands to show the new path, with the node highlighted. See column 7, lines 28-47.

Consentino et al. also use descriptive node labels. For example, a node label in an electronic catalog might be the product number. However, the product number alone would not typically enough to let the user know what the product is. Therefore, the Consentino et al. system adds, in addition to the product number, an attribute value of that product, such as the product name. See column 7, lines 48-58. This provides more useful information since the product number and its name are displayed at the same time. See column 8, lines 5-8; Figure 5, reference numerals 171 and 175.

All Pending Claims are Patentably Distinct Over Consentino, et al. '515:

Applicant respectfully submits that the Consentino, et al. '515 is not an anticipatory reference under 35 U.S.C. § 102 because it does not disclose each and every limitation of the pending claims. More particularly, Consentino, et al. fail to disclose each element of the rejected claims for the following reasons.

Claims 1-18 distinguish patentably over Consentino et al. Each of these rejected claims require a target object which has been derived from a source of data and, further, requires providing information about the source of data from which the target object was derived. On the contrary, the Consentino et al. patent contains no teaching that information about a data source is provided when the target object derived from that data source is selected. Consentino, et al. only provide a database system which combines a hierarchal structure with the ability to navigate lattice data structure.

Claims 3, 4, 9, 10, 15, and 16 are further distinguished in that they require providing information about a transformation performed on the source data to derive the target object. Consentino et al. fail to teach providing such transformation information.

Claims 4, 10, and 16 are further distinguished in that in that they require identifying a function used to transform the source data. No teaching of identifying such a transformation producing function is disclosed by Consentino et al.

Claims 5, 6, 11, 12, 17, and 18 are further distinguished in that they require providing lineage information which identifies the source of data used in deriving the target object. No such lineage information is disclosed by Consentino et al.

Claims 6, 12, and 18 are further distinguished in that they require maintaining transformation models which maintain information about the source of data used in deriving the target object.

Because Consentino et al. fail to disclose each and every limitation of the claims, it is respectfully submitted that a prima facie case of lack of novelty has not been established. Therefore, withdrawal of the rejection of claims 1-8 under 35 U.S.C. § 102(b) is respectfully requested.

Claims 19-26 are distinguished in that they are directed to a method of navigating data in a data warehouse stored in a data storage device connected to a computer comprising receiver user input selecting a target object, said target object derived from one or more sources of data via one or more transformations performed on said one or more sources of data; selecting the target object in response to receiving said user input; and providing information about at least one of said one or more sources of data. No teaching of target objects derived from one or more sources of data

via one or more transformations performed on the one or more sources of data is disclosed by Consentino, et al.

Independent claim 27 is distinguished in that it provides a computer-readable medium for performing steps for navigating data in a data warehouse comprising receiving user input selecting a target object, the target object derived from one or more sources of data via one or more transformations performed on the one or more sources of data; selecting the target object in response to receiving said user input; and providing information about at least one of said one or more sources of data. No such target objects derived from one or more sources of data via one or more transformations performed on said one or more sources of data is disclosed by Consentino, et al.

Lastly, independent claim 28 is distinguished in that a system is provided for navigating data in a data warehouse comprising a plurality of objects including a target object, the target object derived via one or more transformations from one or more sources of data; a transformation lineage system which stores transformation lineage information for the target object, said transformation lineage information associating the target object with said one or more transformations and identifying said one or more data sources; a user interface for receiving user input for selecting one of the plurality of objects; and the user interface being configured to display said transformation lineage information in response to receiving user input selecting said target object. No such target objects derived via one or more transformations or a transformation lineage system is disclosed by Consentino, et al.

Response to Examiner's Position:

On page 5 of the Office Action, the Examiner took the position that Consentino, et al. teaches means/methods

(for example, ancestor and floating menu means) as disclosing the information about a "data source" and cites column 3, lines 1-11.

Applicant respectfully disagrees. Independent claim 1, for example, recites "providing information about a source from which the target object was derived" which is different from information about a data source. Applicant respectfully submits that the Consentino, et al. patent does not teach, suggest, or fairly disclose providing information about a source from which target objects were derived. Rather, simply, the Consentino, et al. patent teaches a hierarchial arrangement and the ability to navigate lattice data structures.

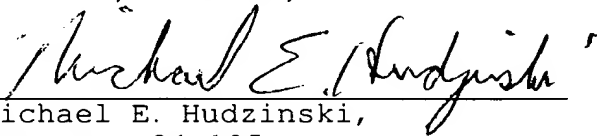
CONCLUSION

For at least the above reasons, applicant respectfully submits that all pending claims are patentably distinct and unobvious over the reference of record.

Allowance of all pending claims and early notice to that effect is respectfully requested.

Respectfully submitted,

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ATTACHMENTS:

1. Marked-Up Version of the Amended Claims, Showing Changes Made



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MARKED-UP VERSION OF THE AMENDED CLAIMS, SHOWING CHANGES

August 14, 2002

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IN THE CLAIMS:

Please amend claims 19 and 27 as follows:

19. (Amended) A method of navigating data in a data warehouse stored in a data storage device connected to a computer, comprising:

5 receiving user input selecting a target object, said target object derived from one or more sources of data via one or more transformations performed on said one or more sources of data;

selecting the target object in response to receiving said user input; and

10 providing information about [said] at least [on] one of said one or more sources of data.

27. (Amended) A computer-readable medium having contents for causing a computer-based information handling system to perform steps for navigating data in a data warehouse stored in a data storage device connected to a
5 computer-based information handling system, the steps comprising:

receiving user input selecting a target object, said target object derived from one or more sources of data via one or more transformations performed on said one or more
10 sources of data;

selecting the target object in response to receiving said user input; and

providing information about [said] at least [on] one of said one or more sources of data.